

Application No. 10/072,259  
Amendment "C" dated July 21, 2005  
Reply to Office Action mailed June 14, 2005

### **AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

#### **Listing of Claims:**

1. (Previously Amended) A method for manufacturing a protective cushioning mouth guard to more precisely fit and provide increased cushioning against a person's teeth, comprising:

providing a protective outer mouth guard that is substantially U-shaped or L-shaped so as to fit over and cover at least a portion of a person's upper or lower teeth and that has a substantially smooth outer surface that contacts soft inner labial and buccal tissue of a person during use;

introducing a quantity of a deformable and curable elastomeric material into the protective outer mouth guard that is able to form a dental impression therein without heating to above a melting point and then cure by at least one of polymerization or cross linking;

placing the protective outer mouth guard over at least a portion of the person's upper or lower teeth in a manner so that the deformable and curable elastomeric material forms an impression of at least a portion of the person's upper or lower teeth; and

allowing the curable elastomeric material to at least partially cure by at least one of polymerization or cross linking, rather than solely by cooling, in order to yield a protective cushioning mouth guard having an inner cushioning layer formed from the curable elastomeric material positioned within the protective outer mouth guard.

2. (Previously Amended) A method as defined in claim 1, wherein the protective outer mouth guard comprises a non-custom mouth guard, a thermally deformable mouth guard, or a custom-fitted mouth guard.

3. (Cancelled)
4. (Cancelled)
5. (Cancelled)
6. (Cancelled)

Application No. 10/072,259  
Amendment "C" dated July 21, 2005  
Reply to Office Action mailed June 14, 2005

7. (Previously Amended) A method as defined in claim 1, wherein the protective outer mouth guard is a sport mouth guard sized and configured so as to protect a person's teeth during athletic events.

8. (Previously Amended) A method as defined in claim 1, wherein the curable elastomeric material is initially flowable at a temperature no higher than body temperature when first introduced into the protective outer mouth guard.

9. (Original) A method as defined in claim 1, wherein the curable elastomeric material comprises at least one silicon-based polymer.

10. (Original) A method as defined in claim 9, wherein the silicon-based polymer comprises at least one polysiloxane.

11. (Original) A method as defined in claim 9, wherein the silicon-based polymer comprises a multi-part composition that is mixed together just prior to introducing it into the protective mouth guard.

12. (Previously Amended) A method as defined in claim 1, further including removing the protective outer mouth guard from the person's mouth after the curable elastomeric material has formed the impression of at least a portion of the person's teeth but before it has fully cured in order for the curable elastomeric material to continue curing outside the person's mouth.

13. (Previously Amended) A method as defined in claim 1, further comprising applying an adhesive material to the protective outer mouth guard prior to introducing the curable elastomeric material therein in order to increase bonding between the protective outer mouth guard and the inner cushioning layer formed from the curable elastomeric material.

Application No. 10/072,259  
Amendment "C" dated July 21, 2005  
Reply to Office Action mailed June 14, 2005

14. (Previously Amended) A method as defined in claim 1, wherein the protective outer mouth guard is substantially more rigid and durable than the inner cushioning layer formed from the curable elastomeric material.

15. (Currently Amended) A method for manufacturing a protective cushioning mouth guard to more precisely fit and provide increased cushioning against a person's teeth, comprising:

providing a custom-fitted protective outer mouth guard previously customized using a person's teeth or model of the person's teeth configured so as to cover and fit at least a portion of ~~the~~ the person's teeth in a customized manner;

introducing a quantity of a deformable and curable elastomeric material into the custom-fitted protective outer mouth guard that is able to form a dental impression therein without heating to above a melting point;

placing the custom-fitted protective outer mouth guard over the person's teeth in a manner so that the deformable and curable elastomeric material forms an impression of at least a portion of the person's teeth; and

allowing the curable elastomeric material to at least partially cure within the custom-fitted protective mouth guard in order to yield a protective cushioning mouth guard having an inner cushioning layer formed from the curable elastomeric material positioned within the custom-fitted protective outer mouth guard.

16. (Previously Amended) A method as defined in claim 15, wherein the custom-fitted protective outer mouth guard is formed from a stone cast that is representative of at least a portion of the person's teeth.

17. (Original) A method as defined in claim 15, wherein the curable elastomeric material comprises at least one silicone-based polymer.

Application No. 10/072,259  
Amendment "C" dated July 21, 2005  
Reply to Office Action mailed June 14, 2005

18. (Previously Amended) A kit for use in forming a protective cushioning mouth guard that more precisely fits and provides increased cushioning against a person's upper or lower teeth, comprising:

at least one of (i) a protective outer mouth guard that is substantially U-shaped or L-shaped so as to fit over and cover at least a portion of a person's upper or lower teeth and that has a substantially smooth outer surface that contacts soft inner labial and buccal tissue of a person during use or (ii) a mouth guard precursor comprising a sheet material for use in forming a protective outer mouth guard; and

at least one deformable and curable elastomeric material that can be placed by a user into the protective outer mouth guard of (i) and/or a protective outer mouth guard formed from the mouth guard precursor of (ii) so as to form an impression of at least a portion of the person's teeth and that will at least partially cure by at least one of polymerization or cross linking rather than solely by cooling so as to substantially maintain the impression over time and thereby yield a protective cushioning mouth guard having an inner cushioning layer formed from the curable elastomeric material positioned within the protective outer mouth guard.

19. (Previously Amended) A kit as defined in claim 18, wherein the mouth guard precursor comprises at least one sheet material that can be formed into a custom-fitted protective outer mouth guard from a stone cast that is representative of at least a portion of the person's teeth.

20. (Original) A kit as defined in claim 18, wherein the curable elastomeric material comprises at least one silicone-based polymer.

Application No. 10/072,259  
Amendment "C" dated July 21, 2005  
Reply to Office Action mailed June 14, 2005

21. (Currently Amended) A method for manufacturing a protective cushioning mouth guard to more precisely fit and provide increased cushioning against a person's teeth, comprising:

providing a protective outer mouth guard configured so as to cover at least a portion of a person's teeth;

applying an adhesive material to the protective outer mouth guard;

introducing a quantity of a deformable and curable elastomeric material into the mouth guard that is able to cure by at least one of polymerization or cross linking;

placing the protective outer mouth guard over the person's teeth in a manner so that the deformable and curable elastomeric material forms an impression of at least a portion of the person's teeth; and

allowing the curable elastomeric material to at least partially cure by at least one of polymerization or cross linking rather than solely by cooling in order to yield a protective cushioning mouth guard having an inner cushioning layer formed from the curable elastomeric material positioned within the protective outer mouth guard,

the adhesive material increasing bond strength between the inner cushioning layer formed from the curable elastomeric material and the protective outer mouth guard compared to a bond strength between the inner cushioning layer and protective outer mouth guard in the absence of the adhesive material.

Application No. 10/072,259  
Amendment "C" dated July 21, 2005  
Reply to Office Action mailed June 14, 2005

22. (Currently Amended) A method for manufacturing a protective cushioning mouth guard to more precisely fit and provide increased cushioning against a person's teeth, comprising:

providing a protective outer mouth guard that is substantially U-shaped or L-shaped and configured so as to cover at least a portion of a person's teeth and that has a substantially smooth outer surface that contacts inner labial and buccal tissue of a person during use;

introducing a quantity of a curable polysiloxane material into the protective mouth guard that is able to cure by at least one of polymerization or cross linking;

placing the protective outer mouth guard over the person's teeth in a manner so that the curable polysiloxane material forms an impression of at least a portion of the person's teeth; and

allowing the curable polysiloxane material to at least partially cure by at least one of polymerization or cross linking in order to yield a protective cushioning mouth guard having an inner cushioning layer formed from the curable polysiloxane material within the protective outer mouth guard.

23. (Currently Amended) A kit for use in forming a protective cushioning mouth guard that more precisely fits and provides increased cushioning against a person's teeth, comprising:

at least one protective outer mouth guard or mouth guard precursor that is substantially U-shaped or L-shaped;

at least one deformable and curable elastomeric material that can be placed by a user into a protective outer mouth guard so as to form an impression of at least a portion of the person's teeth and that will at least partially cure by at least one of polymerization or cross-linking rather than solely by cooling so as to substantially maintain the impression over time and form an inner cushioning layer within the protective outer mouth guard.